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Lepidophyllum. These chapters are followed by a discussion of the floristic and ecological relationships of the plants, a table of the species with ample taxonomic notes, and some good plates of representative plants and plant formations.—
HENRY C. COWLES.

Galvanotropism again.—Miss BAYLISS,⁸ working at Birmingham under the direction of EWART, has studied the effect of electric currents applied directly to roots by electrodes, polarizable and non-polarizable, and indirectly by imbedding seedlings in a 3 per cent. gelatin solution between platinum electrodes 10–12 cm apart. The currents used were 4.2 volts with the resistance that of the gelatin for 48 hours, or of the roots alone (3–8 minutes), or 150,000 ohms, applied for 5 to 48 hours, or 220 volts with 2220 ohms applied for 50 seconds. She finds that it makes a difference where the electrodes are placed; when on opposite sides of the sensitive (growing) region the curvature is always toward the cathode, but if one is nearer the apex than the other the curvature is toward the apical electrode. Unlike PLOWMAN, whose papers she has overlooked, she found that curvatures could be produced without injury, even by strong currents of short duration. Contrary to GASSNER, whose mode of experimentation she deprecates; she concludes that the curvatures are due to the ions produced by electrolysis and that galvanotropism therefore is a form of chemotropism, and not necessarily of traumatropism.—C. R. B.

Embryogeny in Ephedra.—*Ephedra distachya* has been studied recently by Miss BERRIDGE and Miss SANDAY,⁹ who find two markedly unequal male nuclei lying in a common cytoplasmic mass. The functioning male nucleus slips out of the cytoplasmic mass and passes to the egg nucleus. Although no case of fusion was observed, fertilization is thought to occur because proembryos are found which the authors can account for in no other way than by supposing fertilization has occurred. The jacket cells arise at the same time as the central cells. Later the nuclei of the jacket cells divide by direct division, the binucleate cells enlarge and become gorged with food, and the wall of the egg breaks down, permitting the jacket nuclei to escape. The jacket nuclei fuse in pairs within the egg and give rise to proembryos. In some cases the proembryos are merely enlarged jacket cells, proembryonal cells occur within jacket cells not adjacent to archegonia, and migration and fusion of the nuclei of neighboring jacket cells precede the formation of these proembryos. These are startling claims to make in connection with the embryogeny of a gymnosperm.—W. J. G. LAND.

Items of taxonomic interest.—N. C. KINDBERG (Rev. Bry. 34:87–92. 1907), in notes on North American mosses, has described new species under *Pseudoleskeella*, *Hypnum* (2), *Dichodontium*, *Grimmia* (2), *Bryum* (4), and *Pohlia*.—

⁸ BAYLISS, JESSIE S., On the galvanotropism of roots. Annals of Botany 21: 387–405. figs. 6. 1907.

⁹ BERRIDGE, ETHEL M., and SANDAY, ELIZABETH, Oogenesis and embryogeny in *Ephedra distachya*. New Phytologist 6:128–134, 167–174. pls. 3, 4. 1907.